WonderfulVinyl

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The European Council
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PVC in architecture and design

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CONTENT

INSPIRED BY THE CENTRE POMPIDOU IN PARIS: A PVC ARCHITECTURAL INSTALLATION SHOWCASES VERTICAL FARMING DURING UIA 2023

VinylPlus® created a sculpture for the UIA World Congress of Architects 2023: Vinyl Veggies explores the potential of vertical farming with an installation made of reused PVC.

While the iconic Parisian Pompidou building is renowned for its glass and metal construction, VinylPlus' innovative artwork artfully utilizes assembled PVC pipes to emulate the intricate structure of vertical farming systems. The installation serves a dual purpose: it is a captivating architectural work designed for the architecture and construction congress, and in addition it stands as a symbol of the future of vertical food production, highlighting the crucial role of PVC as a material.

These systems exist on both large scales, where they produce substantial yields, and much smaller scales, enabling individuals to engage in vertical gardening and cultivate plants at home. Ultimately, the sculpture provides an answer to the question: how can architecture help address the food crisis?

Vertical farming has gained significant popularity as a response to the challenges posed by climate change, including unpredictable weather conditions, diminishing agricultural land, and the ever-increasing demand for food driven by a growing global population. By cultivating crops in layered configurations, this innovative system optimizes space, minimizes transportation requirements, and fosters local

food production. Unlike traditional farming, which yields harvests once or twice a year, vertical farming enables a year-round supply of produce.

PVC as a material possesses a remarkable set of properties that makes it perfectly suited for vertical farming. PVC's durability ensures the longevity of the structures, while its flexibility allows for innovative design possibilities. Also, PVC exhibits inherent resilience against challenging weather conditions, ensuring the sustainability of the supported farming systems. With this sculpture, VinylPlus aims to demonstrate how architecture can play a vital role in mitigating the impacts of climate change.

The sculpture not only reveals the inner workings of vertical farming systems, showcasing crops cultivated in vertically stacked layers, it also serves as an inspiration for individuals to construct their own vertical farming systems at home, utilizing materials like PVC. By embracing this approach, individuals can actively participate in sustainable food production, reduce their ecological footprint, and contribute to a more resilient and food-secure future.

During the UIA World Congress of Architects 2023, the sculpture was available to visit at the Plastic Pavilion in Gammel Strand in Copenhagen, Denmark.

The Plastic Pavilion was one of 15 official SDG Pavilions during the congress. The SDG Pavilions were made in collaboration between architects, engineers, material producers, science institutions, associations and foundations working towards addressing one or more of the UN 17 Sustainable Development Goals. The 15 SDG Pavilions hosted debates and activities driven by experts within the different areas throughout the congress.

Vinyl Veggies is also a part of the "Garden to Connect" project, selected by the European Commission for the Festival of the New European Bauhaus, a new flagship event aiming to bring together talents and ideas from all over Europe to contribute to the accomplishment of the European Green Deal.

About VinylPlus

The sculpture was presented by VinylPlus®, the European PVC industry's commitment to sustainable development, working to improve the sustainability performance of PVC.

vinyl plus® COMMITTED TO SUSTAINABLE DEVELOPMENT

PLASTIC PAVILION

Find out more about VinylPlus® at:

vinylplus.eu

HONEYCOMB APARTMENTS

TECHNICAL INFO

PVC Curtains

ARCHITECTS

OFIS Arhitekti,
Ljubljana,
Slovenia
ofis.si

LOCATION

Izola,
Slovenia

The winning entry in a competition for social housing design blocks announced by the Slovenia Housing Fund, Honeycomb Apartments won thanks to the economic, rational and functional solutions it proposes.

The absence of structural elements inside the apartments provide flexibility and easily allow reorganization. The housing blocks are set out on a hill with a view of Izola Bay on one side and the surrounding hills on the other.

Because of the Mediterranean climate, outdoor space and shade are important elements. Each balcony module is an efficient system that provides shade, ventilation and thermal comfort. PVC coated polyester curtains, installed on each balcony, block direct sunlight and accumulate a warm air buffer zone that provides additional heating to the apartments during winter. Over the summer, the hot accumulated area behind the shades is naturally ventilated through several perforations on the side partitions of the balconies.

PICTURE CREDITS

OFIS Arhitekti

LEBUÏNUSKERK

CHURCH

TECHNICAL INFO

PVC Flooring

ARCHITECTS

Van Hoogevest Architecten, Amersfoort, Netherlands
vanhoogevest.nl

LOCATION

Deventer, Netherlands

Lebuïnuskerk is an old church dating back to the Gothic period, built between 1450 and 1525. Today, the religious building is a continuation of the Reformed Church and the Evangelical Lutheran Church. The merger prompted a redesign of the interior, so that both beliefs could feel at home.

The many functions were given their own place, creating clarity and overview. The nave has been designed as a space suitable for various liturgical and multifunctional arrangements. Van Hoogevest Architecten, an office with a broad knowledge in historic architecture and renovations with among others Rijksmuseum in Amsterdam as a client, choose a PVC flooring for the religious building.

The PVC flooring provides great acoustic to the high-ceiling building; the unique floor pattern captures the light in a stunning way.

PICTURE CREDITS

Van Hoogevest Architecten

MIX AND MELON VERSE INSTALLATIONS

TECHNICAL INFO

Inflatable PVC

ARCHITECTS

Cyril Lancelin,
Lyon,
France
townandconcrete.com

LOCATION

Lyon,
France

Cyril Lancelin is a French architect and artist which has collaborated for over fifteen years with internationally renowned designers in Paris and Los Angeles, prior to launching his studio in 2016.

Cyril uses primitive forms in his drawings and installations, making them the pillar of his work. He uses classical shapes and volumetric spaces essential to creating unique structures. Shapes are used at the architectural scale to create experiential art.

In his research and work on the multiplication of primitive forms to establish partitions, the artist uses as basic elements melons and other fruits. Those elements are part of the pop culture, their skin is very graphic and has inspired a lot of artists in the course of the years. In the installation “Mix”, they are used as a construction material, in a larger scale to procure an immersive experience in an unreal space.

Installation Mix is created as both a work of fine art for amazing images and as an installation for visitors’ experiences.

For this exhibition, Cyril Lancelin chooses watermelon, summer’s representative fruit, as the creative element to create an experiential space that is both gigantic and immersive.

The watermelon installation, made of light inflatable PVC, represents the momentum of flying into the blue sky with wings of dreams. The installation’s light works as a lively appearance, welcoming the visitors in the overwhelming space without resulting intimidating.

PICTURE CREDITS

Cyril Lancelin

INFLATABLE HOUSE

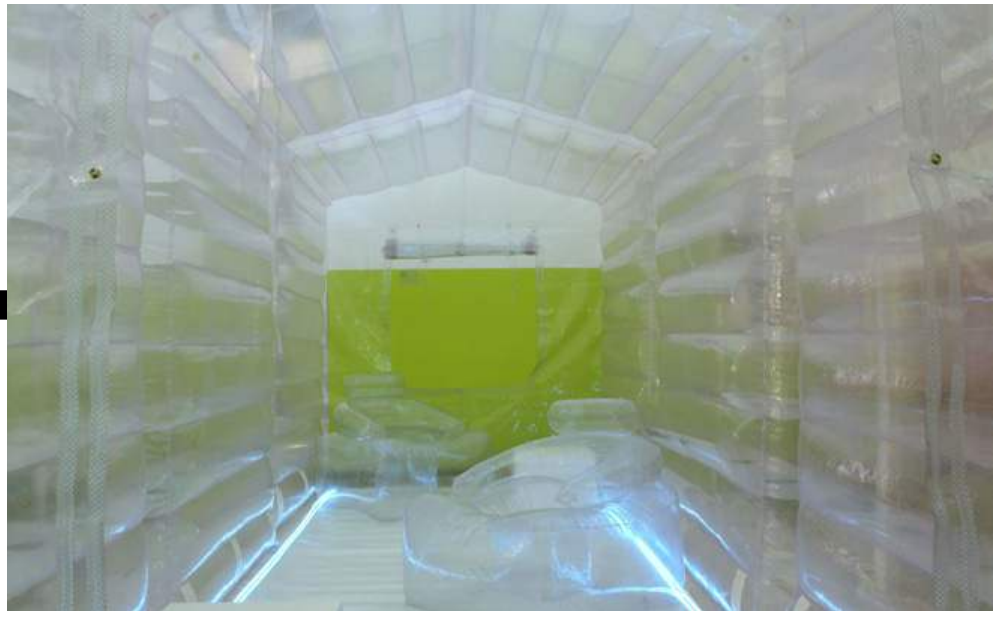
TECHNICAL INFO
Inflatable PVC

ARCHITECTS

Altro Studio,
Rome,
Italy

LOCATION

Rome,
Italy



The pavilion designed by the Italian architecture firm Altro Studio appears like a completely transparent house, based on the principle of modularity. It is made of three PVC inflatable modules, measuring 2.50m wide by 2.30m high by 1.5m thick. The modules, anchored to the ground by means of a system of steel platforms, are assembled by zip fasteners, placed in a way that does not allow water to enter the space.

Each module, once the length of the house has been decided, ends with infill panels, inside which a door and a window are cut out where needed. The latter elements, which guarantee ventilation within the space, are also characterized by a system of side zip fasteners.

The modularity of this PVC structure allows the user to configure different solutions, creating architectures of various sizes that can be adapted to different uses.

The PVC structure also allows for an architecture that interacts closely with the surrounding environment, where the transparencies relate the internal environment with the external one. Furthermore, the lightness of the entire structure and the possibility of compacting it in a confined space when deflated, allow it to be positioned in different urban contexts, like a real mobile architecture.

PICTURE CREDITS

Altro Studio

BOŘISLAVKA SHOPPING CENTER

TECHNICAL INFO

PVC Membrane

ARCHITECTS

Aulik Fiser Architects,
Prague, Czechia
afarch.cz

LOCATION

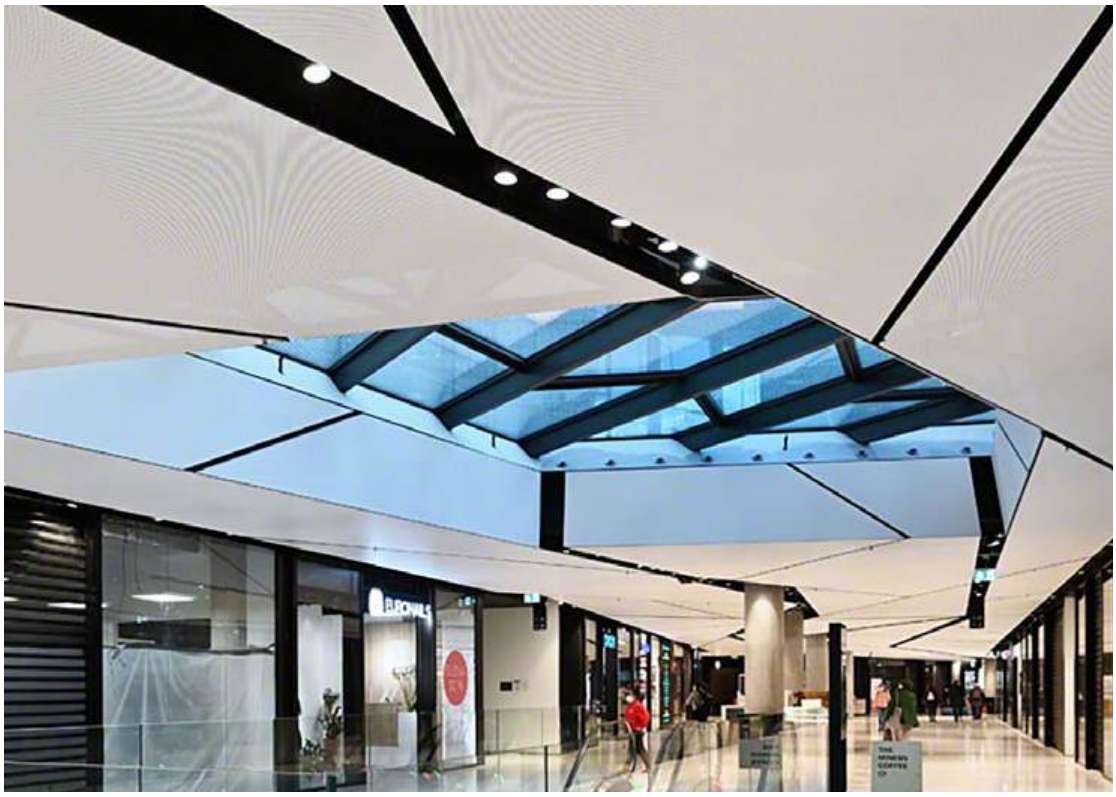
Prague,
Czechia
borislavka-centrum.cz

This new urban block becomes a focal point for the Prague 6 district, taking advantage of the privileged location directly above the Bořislavka metro station. Four crystal-shaped volumes rise from a common two-storey base, the shape of which responds to the narrow and irregular construction site. The new building hosts retail stores, cafes and restaurants, offices and an underground car park.

The geometry of the individual crystals perched on a common platform allows for a highly effective internal layout of offices. The entire block structure is perfectly permeable, interacting with the surrounding area.

The interior design was developed through a series of large internal aisles overlooked by the shops.

The false ceiling represents an element of great personality, developed through a series of inclined planes covered with a white PVC membrane. The final effect is of great three-dimensionality and creates a play of shadows and reflections that gives movement and personality to the interior spaces.



PICTURE CREDITS

BoysPlayNice

LEGO HOUSE

TECHNICAL INFO

PVC Membrane

ARCHITECTS

BIG - Bjarke Ingels Group, Copenhagen, Denmark
big.dk

LOCATION

Billund, Denmark

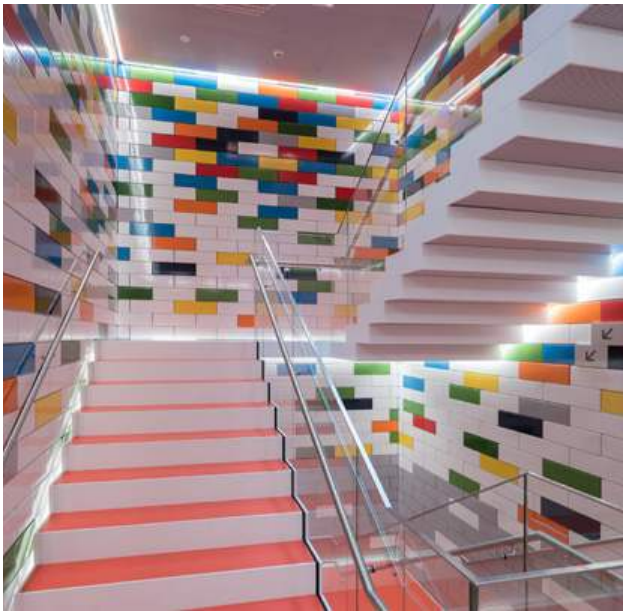
BIG, Bjarke Ingels Group, and Lego bring the toy scale of the classic Lego brick to architectural scale with Lego House, forming vast exhibition spaces and public squares that embody the culture and values at the heart of all Lego experiences.

Designed by BIG and COWI, Lego House is an experience hub for Lego fans of all ages, as well as an architectural landmark and a significant step towards the city's goal of making Billund the Capital for Children. The construction of the 12,000 m^2 Lego House commenced in 2014, replacing the former City Hall building.

Due to its central location in the heart of Billund, the 23 metre tall Lego House is conceived as an urban space as much as an experience center. 21 overlapping blocks are placed like individual buildings, framing a 2,000 m^2 Lego square that is illuminated through the cracks and gaps between the volumes. The plaza appears like an urban cave without any visible columns, and is publicly accessible, allowing visitors and citizens of Billund to shortcut through the building.

The first and second floors include four playground: guests of all ages can have an immersive and interactive experience, express their imagination, and not least be challenged by meeting other builders from all over the world. The top of the building is crowned by the Masterpiece Gallery, a collection of Lego fans' beloved creations that pay tribute to the Lego community.

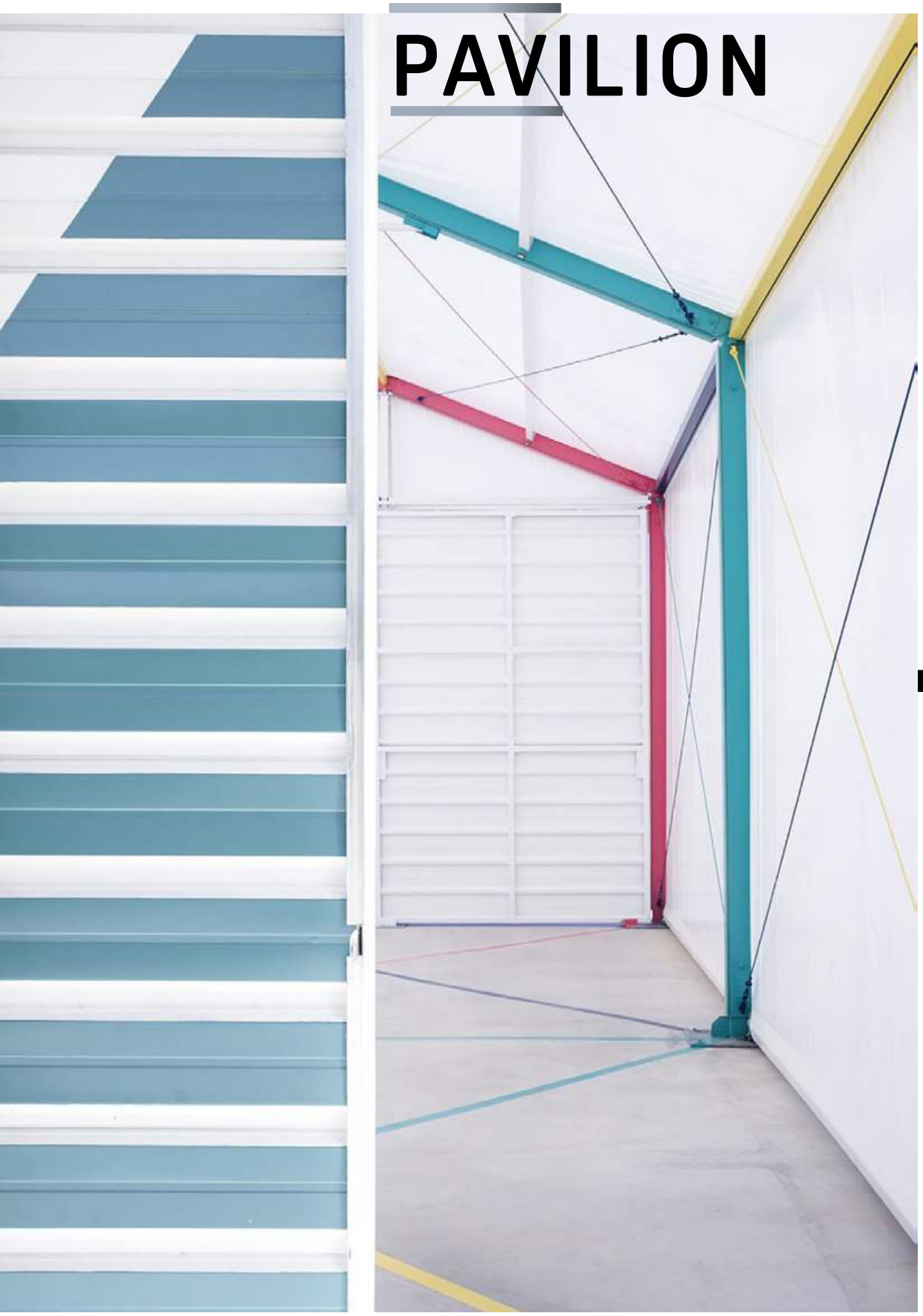
The Masterpiece Gallery is made of the iconic 2x4 Lego brick and showcases art beneath eight circular skylights made of an opaline PVC membrane that resemble the studs of the brick. The proportions of the brick are nested in the geometries of everything man-made in the building, from the glazed ceramic tiles in the steps and walls to the overall 21 block scheme.



PICTURE CREDITS

Iwan Baan,
Aldo Amoretti

MULTICOLOR PAVILION



TECHNICAL INFO

PVC Membrane

ARCHITECTS

Martin Palaiz,
Madrid,
Spain
martin-pelaez.es

LOCATION

Madrid,
Spain

Multicolor Pavilion is a play pavilion designed for Fundaland, the inclusive and supportive park of Fundación A LA PAR, working in social inclusion.

With the archetypical shape of a house as inclusive space, a home for all, the Pavilion celebrates diversity through colour, and the alliance between people by the intersections of the colour lines.

The pavilion building is divided in four main elements: platform, structure, graphics and envelope. The structure is composed by 3 main gabled frames, joined by 12 beams and 12 cables,

bracing the main structure in all directions. As a supportive feature to the structure work, two large steel doors of 2.5 metres long by 4.5 metres height were installed on the front elevations.

These big doors have three purposes: to ensure the natural ventilation of the space, frame the views of the greenery of the surroundings from the inside, and to keep the activity of the space visually open to everyone, conveying fun and communication.

The custom-made colours chosen for the project respond to a blend of the primary colours and the corporative colours of Fundaland. Lines were thought as hyperlinks that connect colours in 3D and overrun walls, roof, and floors.

Lastly, the translucent PVC envelope was set up, allowing to foresee shadows and silhouettes from the outside and making the pavilion shine at night as a lantern.

PICTURE CREDITS

Casilda de la Pisa

HAGA-SKOLAN

TECHNICAL INFO

PVC Flooring

ARCHITECTS

Cedervall Arkitekter,
Stockholm,
Sweden
cedervallarkitekter.se

LOCATION

Stockholm,
Sweden

Hagaskolan is a primary school located in Vallentuna, a surburban area on the north side of Stockholm.

For this project, Stockholm-based architects Cedervall Arkitekter focused on the closeness to nature, bringing the surrounding woods into the school area to give children a sense of closeness to nature and encourage outdoor learning experiences. Interior-wise, Cedervall has designed an impressive indoor area, where lots of natural light, wooden materials and geometric shapes of PVC flooring come together in a beautiful arrangement that allows students to get together, socialize and learn in an inspiring design setting.

At the center is the main square, the great meeting place. Here we can find a reception area, conference room, terraced lawn seating; upstairs, you will find a library. The meeting place is accessible via entrances from all four directions.

With the experience of several major school projects, Cedervall Arkitekter knows the importance of natural and clear environments, without hidden corners or overbearing angles. Here, architecture is key, and contributes to convey a real change for students, teachers and other staff.

PICTURE CREDITS

Cedervall Arkitekter

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